

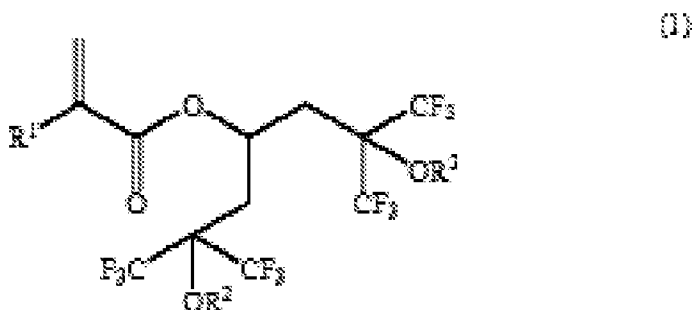
## DETAILED ACTION

1. This Office Action is in response to **three** things including: (A) **Response** filed on October 15, 2009, (B) **Exhibit A** filed on October 15, 2009, and (C) new **IDS** (1 page) filed on October 29, 2009, which are in response to Non-Final office action of April 16, 2009. With such a response, **no claim is amended, cancelled or added.**
  2. After further consideration and with an interview with Attorney **J. D. Evans** on February 23, 2010, **non-elected Claims 6-13 (Group II) are rejoined with elected Claims 1-5 (Group I).** This Application is a **371/PCT/JP04/01210** with a Japanese priority at July 10, 2003. **Three IDS'** (total 5 pages) are filed so far. **Claims 1-13** with **one** independent claim (Claim 1) are now pending. An action follows. Only "P/X"-cited reference is found in international search report in Applicants' priority document **WO 2005/005370 A1 to Miyazawa et al.**
  3. Claim rejections under **Non-Final** Office Action filed on April 16, 2009 are now removed for the reasons given in paragraphs 4-13 thereafter.
- Allowable Subject Matter*
4. Claims 1-13 is allowed.

Art Unit: 1796

5. The following is an examiner's statement of reasons for allowance: The above Claims 1-13 is allowed over the closest references:

6. The limitation of “not-amended” parent **Claim 1** in present invention relates to a polymerizable acrylate compound represented by the general formula (1) having two hexafluorocarbonol groups.



In the formula,  $R^1$  represents a hydrogen atom, halogen atom, hydrocarbon group or fluorine-containing alkyl group,  $R^2$  and  $R^3$  may be different or identical, and each of them independently is a hydrogen atom, fluorine atom, hydrocarbon group optionally branched, fluorine-containing alkyl group, aromatic group, or cyclic structure containing an aliphatic group and may contain oxygen or carbonyl bond.

See other limitations of dependent **Claims 2-13**.

7. After further consideration and with an interview with Attorney **J. D. Evans** on February 23, 2010, the polymers as disclosed in non-elected Claims 6-13 (Group II) are rejoined with elected Claims 1-5 (Group I) for this allowance. As discussed earlier, the scope of monomer

Art Unit: 1796

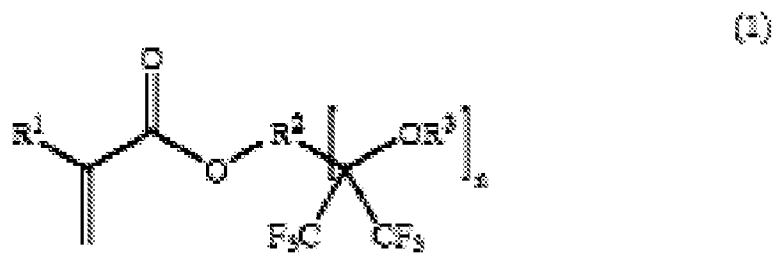
having formula (I) includes **four** different acrylic moieties **since  $R^1$  can be hydrogen atom, halogen atom, alkyl group or fluorine-containing alkyl group.**

To be specific, the claimed four acrylic moieties include: (A)  $CH_2=CH-COO^-$ , (B)  $CH_2=C(R)-COO^-$ , wherein R is alkyl group, (C)  $CH_2=C(X)-COO^-$ , wherein X is a halogen atom such as F, Cl, Br and I, and (D)  $CH_2=C(R_f)-COO^-$ .  **$R^2$  and  $R^3$**  may be different or identical, and each is a hydrogen atom, fluorine atom, alkyl group, fluorine-containing alkyl group, aromatic group, or cyclic structure containing an aliphatic group and may contain oxygen or carbonyl bond.

8. After a very careful examination on Applicants' arguments on pages **8-9** of Remarks along with Exhibit A, **three** references including **Miyazawa (312), Miyazawa (850) and Komoriya** in combination or alone cannot and will not disclose or at least suggest using the claimed "**isopropanetriyl group**", which is a **trivalent** group as disclosed in the formula (1) of parent Claim 1.

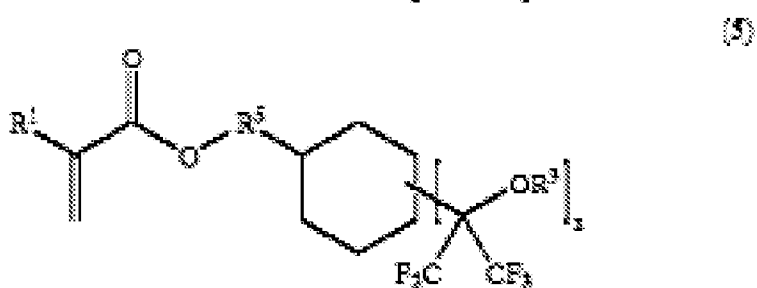
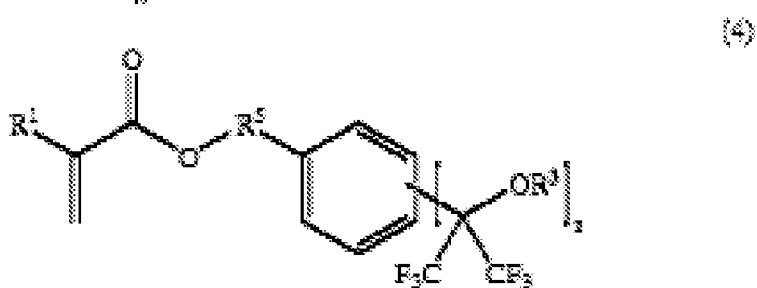
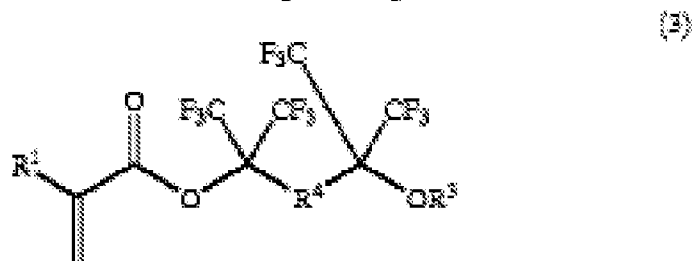
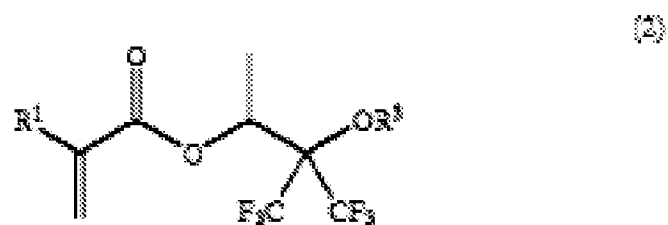
9. To be specific, three references can only disclose using "**isopropylene group**", which is only a **bivalent** group. To be more specific, when  $R^2$  is alkylene which certainly will include isopropylene group in formula (1), it still can be only related to be a monomer such as **formula (2) or formula (3) with n being 1**. However, when  $R^2$  is cycloalkylene or aromatic group, it then can be a monomer such as **formula (4) or formula (5) with n being 2**.

Art Unit: 1796



n= 1 or 2

Specific examples of the polymerizable monomer (represented by the general formula (1)) are represented by the following general formulas (2)–(5):



Art Unit: 1796

10. In an effort to be totally distinguished over the prior reference, Applicants have pointed out in Exhibit A that isopropylene group is indeed totally different from isopropanetriyl group.

**In no way, such two groups can be or will be the same or similar.** In summary, **Examiner's rationale for rejection by extending "alkylene" to "isopropylenetriyl" so as to carry two hexafluorocarbinol groups is withdrawn.** Therefore, all the above-mentioned references, in combination or alone, does not teach or fairly suggest the **isopropanetriyl** group-containing polymerizable acrylate compound having the claimed formula (1) limitation of present invention.

11. After further examination and search, the examiner found the following prior art did not teach the claimed limitation:

**US 4,578,508 to Griffith et al.** have disclosed the making of some fluorinated functional acrylic monomers **having a formula (IV)**, which carries **two hexafluorocarbinol groups and/or its protecting groups (on the same aromatic ring)**. See abstract and specification. The claimed **isopropanetridyl** group is not used. Therefore, Griffith fails to teach or fairly suggest present invention.

Each of **US 7,135,595 B2 to Allen et al.** and **US 3,438,946 to Lichstein et al.** has only disclosed the making of some fluorinated acrylic functional monomers having a formula (**see formula (I) for Allen; see column 5, line 20 for Lichstein**), which carries only **one hexafluorocarbinol group**. The claimed **isopropanetridyl** group is not used at all so as to

Art Unit: 1796

carry two hexafluorocarbonol groups. Therefore, each of Allen and Lichstein fails to teach or fairly suggest present invention.

12. As of the date of this office action, the examiner has not located or identified any reference that can be used singularly or in combination with another reference including the above references to render the present invention anticipated or obvious to one of the ordinary skill in the art. Therefore, the independent **Claim 1** is allowed for the reason listed above. Since the prior art of record fails to teach the present invention, the remaining pending dependent **Claims 2-5** are passed to issue.

13. Any inquiry concerning this communication or earlier communication from the examiner should be directed to **Dr. Henry S. Hu whose telephone number is (571) 272-1103**. The examiner can be reached on Monday through Friday from 9:00 AM –5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Vasu Jagannathan, can be reached on (571) 272-1119. The **fax** number for the organization where this application or proceeding is assigned is **(571) 273-8300** for all regular communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications

Art Unit: 1796

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Peter D. Mulcahy/  
Primary Examiner, Art Unit 1796

/Henry S. Hu/  
Examiner, Art Unit 1796

February 26, 2010